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IN THE CLAIMS

Claim 1 (Currently amended) A disc-shaped optical recording medium, comprising:

a support having at least two major surfaces;

a recording portion formed on one of the major surfaces of the support for recording signals thereon;

a light transmitting layer formed of one of a polycarbonate sheet and a UV light curable resin, on the recording portion, said light transmitting layer having a thickness t of 10 to 177 μm;

wherein the light transmitting layer comprises a surface that is configured to receive and transmit illuminating light to the recording portion to record and/or reproduce signals; ~~and~~

a surface layer formed of an amine salt compound held on the surface of the light transmitting layer, wherein the amine salt compound is a compound of perfluoropolyether having terminal carboxylic groups, represented by the chemical formulas (1) and/or (2):

$$R_f - COO^- N^+HR_1R_2R_3 \qquad \text{(formula 1)}$$

$$R_1R_2R_3N^+H^-CO\text{-}R_f - COO^- N^+HR_1R_2R_3 \qquad \text{(formula 2)}$$

where R_f denotes a perfluoropolyether group and R_1, R_2 and R_3 denote hydrogen or a hydrocarbon group;

wherein a surface resistance of that side of the optical recording medium having the amine salt is not larger than $10^{13}\Omega$; and

wherein the dynamic frictional coefficient of that side of the optical recording medium having the amine salt is not higher than 0.3; and

a skew correcting member on a second of said two major surfaces of said support, said second of said two major surfaces being disposed on a side opposite to a side of said support on which said light transmitting layer is disposed.

Claim 2 (Previously presented) The optical recording medium according to claim 1, wherein the terminal carboxylic groups are represented by both formula 1 and formula 2, and wherein at least one of R_1, R_2 and R_3 in the formulas (1) and (2) is a long-chain hydrocarbon having 10 or more carbon atoms.

Claim 3 (Canceled)

Claim 4 (Previously presented) The optical recording medium according to claim 1, wherein the light transmitting layer satisfies the relationship:

$|\Delta t| \leq 5.26 \times (\lambda/NA^4)$ µm,

where Δt is thickness variation of the light transmitting layer and NA and λ are the numerical aperture and the wavelength of the optical recording medium.

Claim 5 (Previously presented) The optical recording medium according to claim 1, wherein a surface hardness of that side of the optical recording medium having the amine salt is not less than H in terms of pencil hardness.

Claim 6 (Canceled)

Claim 7 (Canceled)

Claim 8 (Previously presented) The optical recording medium according to claim 1, wherein a light-transmitting surface layer is formed between the light transmitting layer and the amine salt compound.

Claim 9 (Previously presented) The optical recording medium according to claim 8, wherein the light-transmitting surface layer is formed of an inorganic material.

Claim 10 (Previously presented) The optical recording medium according to claim 9, wherein the inorganic material is one of SiNx, SiC, and SiOx.

Claim 11 (Currently amended) The optical recording medium according to claim 9, wherein the light-transmitting surface layer is formed by at least one of sputtering ~~or~~ <u>and</u> spin-coating and has a thickness of 1 to 200 nm.

Claim 12 (Previously presented) The optical recording medium according to claim 8, wherein the light-transmitting surface layer is formed of an electrically conductive inorganic material.

Claim 13 (Previously presented) The optical recording medium according to claim 12, wherein the inorganic material is at least one of indium oxide and tin oxide, either alone or in composition.

Claim 14 (Currently amended) The optical recording medium according to claim 12, wherein the light-transmitting surface layer is formed by at least one of sputtering ~~or~~ and spin coating to a thickness of 1 to 200 nm.

Claim 15 (Previously presented) The optical recording medium according to claim 8, wherein the light-transmitting surface layer is formed of an organic resin.

Claim 16 (Previously presented) The optical recording medium according to claim 15, wherein the light-transmitting surface layer is formed by spin coating to a thickness of 0.1 to 10 μm.

Claim 17 (Previously presented) The optical recording medium according to claim 15, wherein the light-transmitting surface layer is formed of an organic resin admixed with powders of oxides of at least one of metals In, Sn, and Zn, and wherein the light-transmitting surface layer is formed by spin coating to a thickness of 0.1 to 100 μm.

Claim 18 (Previously presented) The optical recording medium according to claim 15, wherein a surface tension of the light-transmitting surface layer is set to a value that is smaller than a critical surface tension of the light transmitting layer.

Claim 19 (Previously presented) The optical recording medium according to claim 15, wherein a moisture absorption ratio of the light-transmitting surface layer is set to be higher than a moisture absorption ratio of the light transmitting layer.

Claim 20 (Previously presented) The optical recording medium according to claim 8, wherein the light-transmitting surface layer is electrically conductive.

Claim 21 (Canceled)

Claim 22 (Currently amended) The optical recording medium according to claim ~~21~~ 1, - pmp wherein said skew correcting member is formed by coating and curing a UV curable resin.

Claim 23 (Previously presented) The optical recording medium according to claim 22, wherein a disk skew margin of the optical disc is less than or equal to $84.115(\lambda/NA^3/t)$;

wherein t is a thickness of the light transmitting layer, and NA and λ are a numerical aperture and a wavelength, respectively, of the optical recording medium.

Claim 24 (Previously presented) The optical recording medium according to claim 1, wherein the optical disc is one of a replay only disc (ROM), an overwritable optical disc, and a write-once optical disc. record med

Claim 25 (Previously presented) The optical recording medium according to claim 1, wherein said support comprises a first substrate and a second substrate bonded together.

Claim 26 (Previously presented) The optical recording medium according to claim 1, wherein said two major surfaces of said support include a recording layer and a light transmitting layer bonded to one another.

Claim 27 (Previously presented) The optical recording medium according to claim 1, wherein said support includes a first recording layer formed thereon, an intermediate layer formed on said first recording layer, a second recording layer formed on said intermediate layer, and said light transmitting layer formed on said second recording layer.

Claim 28 (Currently amended) A disc-shaped optical recording medium, comprising:

a support comprising a first substrate and a second substrate bonded together and having at least two major surfaces;

a recording portion formed on one of the major surfaces of the first substrate and on one of the major ~~surface~~ surfaces of the second substrate for recording signals thereon;

a light transmitting layer formed on the recording portion of the first substrate and of the second substrate, wherein the light transmitting layer has a thickness t of 10 to 177 μm, and comprises a surface that is configured to receive and transmit illuminating light to the recording portion to record and/or reproduce signals; ~~and~~

a surface layer formed of an amine salt compound having a predetermined hardness and held on the surface of the light transmitting layer, wherein the amine salt compound is a compound of perfluoropolyether having terminal carboxylic groups, represented by the chemical formulas (1) and/or (2):

$R_f-COO^-N^+HR_1R_2R_3$

(formula 1)

$R_1R_2R_3N^+H^-CO-R_f-COO^-N^+HR_1R_2R_3$

(formula 2)

where R_f denotes a perfluoropolyether group and R_1, R_2 and R_3 denote hydrogen or a hydrocarbon group;

wherein said surface layer has a thickness of 1 to 200 nm, and a dynamic frictional coefficient equal to 0.3 or less; and

a skew correcting member on a second of said two major surfaces of said support, said second of said two major surfaces being disposed on a side opposite to a side of said support on which said light transmitting layer is disposed;

wherein said skew correcting member is formed by coating and curing a UV curable resin. php

between the surface layer 5 and the light transmitting layer 4 poses a problem. Therefore, the surface layer 5 is preferably formed of a material having surface tension lower than that of the critical surface tension of the light transmitting layer 4, as disclosed in Japanese Laying-Open Patent H-6-52576 entitled "optical recording disc and manufacturing method therefor". If the surface layer 5 is formed of a material having a surface tension lower than the critical surface tension of the light transmitting layer 4, it is possible to prevent the wetting between the light transmitting layer 4 and the surface layer 5 to maintain adhesion between the light transmitting layer 4 and the surface layer 5.

If the light transmitting layer 4 is formed of the UV light curable resin and the surface layer 5 is formed of an organic resin, these layers are desirably adjusted as to the water absorption ratio. That is, since it is necessary to avoid corrosion of the reflective film 3, the light transmitting layer 4 is preferably formed of a material having a lower moisture absorption ratio. On the other hand, since it is crucial with the surface layer 5 to improve hardness of the light incident side surface and to prevent electrification, the surface layer 5 needs to exhibit low electrically conductivity. In order to realize this, it is desirable that ions contributing to electrical conduction be contained in the surface layer 5, so that a material having the moisture absorption ratio higher than that of the light transmitting layer 4 needs to be used for the surface layer 5.

It is possible for the optical disc 1 to have a skew correcting member 6 on the

surface of the substrate 2 opposite to its side carrying the light transmitting layer 4, as shown in Fig.2. By having the skew correcting member 6, it is possible to reduce the possibility of occurrence of skew in the optical disc 1. This skew correcting member 6 is formed by coating and curing e.g. a UV curable resin. The material of the skew correcting member 6 may be the same as that of the light transmitting layer 4, or may be higher in its curing contraction ratio than the material of the light transmitting layer 4.

The conditions under which the recording density of the above-described optical disc 1 can be increased are hereinafter explained.

In general, the disc skew margin Θ, wavelength λ of the recording and/or reproducing system, the numerical aperture NA and the thickness t of the light transmitting layer 4 are correlated with one another. The relationship between these parameters and Θ is stated in Japanese Laying-Open Patent H-3-225650, taking, as a reference, a compact disc CD, the playability of which has been proven sufficiently. That is, it suffices if

$$|\Theta| \leq 84.115 (\lambda/NA^3/t)$$

which may be applied to the optical disc 1 embodying the present invention.

It is noted that a specified threshold value of the skew margin Θ is reasonably 0.4° in really mass-producing the optical disc, because the skew margin Θ smaller than this lowers the yield of the disc in mass production, thus raising the cost. With the pre-existing optical recording medium, it is 0.6° and 0.4° for a CD and for a DVD,